Novogene

Small RNA Sequencing

Novogene offers a comprehensive **Small RNA Sequencing service (sRNA-seq)** to investigate the regulatory network of noncoding RNA of 18-40nt in length, especially for microRNA (miRNA) transcripts.

Variations in miRNA can be correlated with gene silencing and post-transcriptional regulation of gene expression, which provides researchers an effective method of regulating target on mRNAs with unprecedented sensitivity and high resolution. Bioinformatic analysis of sRNA-seq illustrates differential expression of miRNAs, structural alterations, and discovery of novel small RNAs via a high throughput research technique.

Our Key Features & Advantages

Extensive Experience
We have extensive records of sequencing projects that have been published in journals.

Comprehensive Analysis
Utlizing mainstream software and mature in-house pipeline to meet multiple bioinformatic requests.
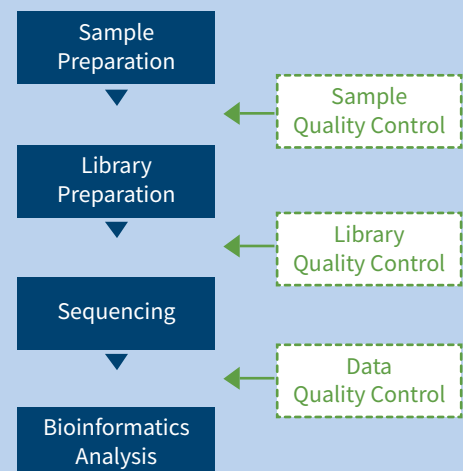
Unsurpassed Data Quality
We guarantee that ≥ 80% of bases have a sequencing quality score ≥ Q30, exceeding Illumina' s official guarantee of ≥ 75%.
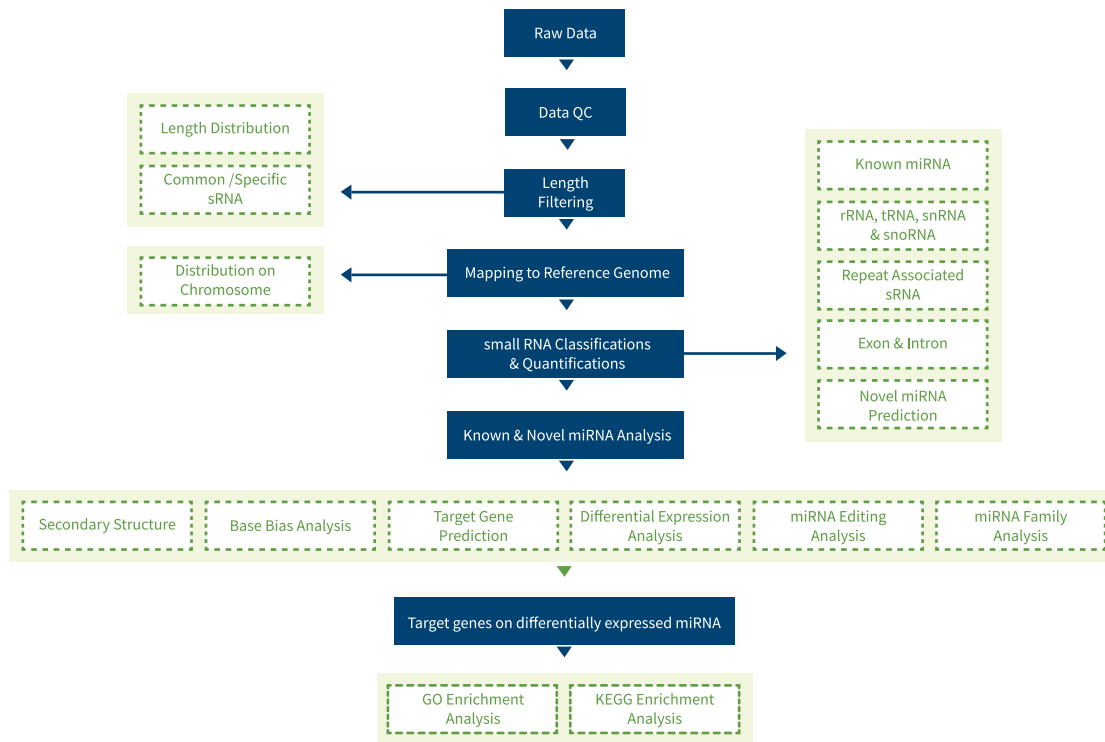
Free Correlation Analysis
Free correlation analysis for both small RNA and mRNA expression levels to investigate the regulatory networks.

Project Workflow

Sample Preparation → ← Sample Quality Control

Library Preparation → ← Library Quality Control

Sequencing → ← Data Quality Control

Bioinformatics Analysis

Standard Analysis Pipeline

Raw Data → Data QC → Length Filtering → Mapping to Reference Genome → small RNA Classifications & Quantifications → Known & Novel miRNA Analysis → Target genes on differentially expressed miRNA

- Length Distribution
- Common /Specific sRNA
- Distribution on Chromosome
- Known miRNA
- rRNA, tRNA, snRNA & snoRNA
- Repeat Associated sRNA
- Exon & Intron
- Novel miRNA Prediction
- Secondary Structure
- Base Bias Analysis
- Target Gene Prediction
- Differential Expression Analysis
- miRNA Editing Analysis
- miRNA Family Analysis
- GO Enrichment Analysis
- KEGG Enrichment Analysis

Sample Requirements

Library Type	Sample Type	Amount	RNA Integrity Number (Agilent 2100)	Purity NanoDrop
Small RNA Library	Total RNA	≥ 2 µg	Animal ≥ 7.5, Plant ≥ 7 with smooth baseline	OD260/280 ≥ 2.0; OD260/230 ≥2.0
Exosomal Small RNA Library	Exosomal Total RNA	≥ 10 ng	Peak between 25 - 200 nt, FU >10, no peak > 2000 nt	

Publications

Novogene has successfully sequenced and analyzed the small RNA of more than 300 species and has published over 40 articles in authoritative journals such as cell and scientific reports.

Journal	IF	Title
Cell	36.216	Proteogenomic Characterization of Endometrial Carcinoma (2020.02)
Cell	36.216	A Translation-Activating Function of MIWI/piRNA during Mouse Spermiogenesis (2019.12)
Nature	43.07	The molecular landscape of ETMR at diagnosis and relapse (2019.12)